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ATTORNEY'S DOCKET NO: M00925/70086 TJO  
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Timothy M. Swager  
Serial No: 09/777,725  
Conf. No: 6084  
Filed: February 5, 2001  
For: Insulated Nanoscopic Pathways, Compositions and Devices of the Same  
Art Unit: 1711

**CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)**  
The undersigned hereby certifies that this document is being placed in the United States mail with first-class postage attached, addressed to Commissioner for Patents, Washington, D.C. 20231, on the 19 day of June 2002.  
Karen M. D'Angelo  
Signature

COMMISSIONER FOR PATENTS  
WASHINGTON, D.C. 20231

Sir:

Transmitted herewith is/are the following document(s):

- ☒ Information Disclosure Statement
- ☒ Form PTO-1449 and References
- ☒ Return Receipt Postcard

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If the enclosed papers are considered incomplete, the Mail Room and/or the Application Branch is respectfully requested to contact the undersigned at (617) 720-3500, Boston, Massachusetts.

No fee is due. If it is determined that a fee is due, it may be charged to the account of the undersigned, Deposit Account No. 23/2825. A duplicate of this sheet is enclosed.

Respectfully Submitted,  
Timothy J. Oyer  
Timothy J. Oyer, Reg. No. 36,628  
Wolf, Greenfield & Sacks, P.C.  
600 Atlantic Avenue  
Boston, MA 02210-2211  
(617) 720-3500



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*Karen M. O'Angelo*  
Signature

Commissioner for Patents  
Washington, D.C. 20231

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**STATEMENT FILED PURSUANT TO THE DUTY OF  
DISCLOSURE UNDER 37 CFR §§1.56, 1.97 AND 1.98**

Sir:

Pursuant to the duty of disclosure under 37 C.F.R. §§1.56, 1.97 and 1.98, the Applicant requests consideration of this Information Disclosure Statement.

**PART I: Compliance with 37 C.F.R. §1.97**

This Information Disclosure Statement has been filed before the mailing date of a first Office Action on the merits in the above-identified case. No fee or certification is required.

**PART II: Information Cited**

The Applicant hereby makes of record in the above-identified application the information listed on the attached form PTO-1449 (modified). The order of presentation of the references should not be construed as an indication of the importance of the references.

The Applicant hereby makes the following additional information of record in the above-identified application: A copy of the International Search Report for the corresponding PCT Application No. PCT/US01/03784 is enclosed.

PART III: Remarks

Documents cited on the attached form PTO-1449 (modified) are enclosed unless otherwise indicated on the attached form PTO-1449 (modified). It is respectfully requested that:

1. The Examiner consider completely the cited information, along with any other information, in reaching a determination concerning the patentability of the present claims;
2. The enclosed form PTO-1449 be signed by the Examiner to evidence that the cited information has been fully considered by the Patent and Trademark Office during the examination of this application;
3. The citations for the information be printed on any patent which issues from this application.

By submitting this Information Disclosure Statement, the Applicant makes no representation that a search has been performed, of the extent of any search performed, or that more relevant information does not exist.

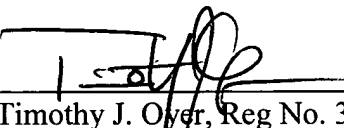
By submitting this Information Disclosure Statement, the Applicant makes no representation that the information cited in the Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. §1.56(b).

By submitting this Information Disclosure Statement, the Applicant makes no representation that the information cited in the Statement is, or is considered to be, in fact, prior art as defined by 35 U.S.C. §102.

Notwithstanding any statements by the Applicant, the Examiner is urged to form his own conclusion regarding the relevance of the cited information.

An early and favorable action is hereby requested.

Respectfully submitted,

By:   
\_\_\_\_\_  
Timothy J. Over, Reg No. 36,628  
Wolf, Greenfield & Sacks, P.C.  
600 Atlantic Avenue  
Boston, MA 02210  
Telephone (617) 720-3500

Docket No. M00925/70086  
Mailed: June 19, 2002

**FORM PTO-1449/A and B (Modified)**

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

O I P E J C 1 0 3 8  
JUN 27 2002

APPLICATION NO.: 09/777,725  
CONFIRMATION NO.: 6084

ATTY. DOCKET NO.: M00925/70086

FILING DATE: February 5, 2001

APPLICANT: Timothy M. Swager

GROUP ART UNIT: 1711

EXAMINER: Unassigned

Sheet 1 of 2

#### U.S. PATENT DOCUMENTS

Examiner's Initials#	Cite No.	U.S. Patent Document Number	Name of Patentee or Applicant of Cited Document	Date of Publication or of issue of Cited Document MM-DD-YYYY
	1	4,839,112	Wynne et al.	06/13/89
	2	4,957,615	Ushizawa et al.	09/18/90
	3	4,992,244	Grate	02/12/91
	4	5,091,502	Narang et al.	02/25/92
	5	5,250,439	Musho et al.	10/05/93
	6	5,312,896	Bhardwaj et al.	05/17/94
	7	5,387,462	Debe	02/07/95
	8	5,493,017	Therien et al.	02/20/96
	9	5,549,851	Fukushima et al.	08/27/96
	10	5,675,001	Hoffman et al.	10/07/97
	11	5,323,309	Taylor et al.	06/21/94
	12	6,020,426	Yamaguchi et al.	02/01/2000
	13	6,323,309	Swager et al.	11/27/01

#### FOREIGN PATENT DOCUMENTS

Examiner's Initials#	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document (not necessary)	Date of Publication of Cited Document MM-DD-YYYY	Translation (Y/N)
		Office/Country	Number	Kind Code			
	14	WO	99/57222	A1	Massachusetts Institute of Technology	11/11/1999	
	15	WO	00/05774	A1	Massachusetts Institute of Technology	02/03/2000	
	16	WO	95/16681	A1	Trustees of University of Pennsylvania	06/22/1995	

#### OTHER ART — NON PATENT LITERATURE DOCUMENTS

Examiner's Initials#	Cite No	Include name of the author (in CAPITAL LETTERS) title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, relevant page(s), volume-issue number(s), publisher, city and/or country where published.	Translation (Y/N)
	17	T. Swager, "The Molecular Wire Approach to Sensory Signal Application," Acc. Chem. Res., Vol. 31, pp. 201-207, 1998	
	18	P. Audebert et al, "Synthesis and Characteristics of New Redox Polymers Based on Copper Containing Units; Evidence for the Participation of Copper in the Electron Transfer Mechanism", New Journal of Chemistry, Vol. 15, No. 4, pp. 235-237, 1991	
	19	K.A. Goldsby et al., "Oxidation of Nickel(II) Bis(salicylaldimine) Complexes: Solvent Control of the Ultimate Redox Site", Polyhedron, Vol. 8, No. 1, pp. 113-115, 1989	
	20	L.A. Hoferkamp and K.A. Goldsby, "Surface-Modified Electrodes Based on Nickel(II) and Copper(II) Bis(salicylaldimine) Complexes", Chemistry of Materials Vol. 1, No. 3, pp. 348-352, 1989	
	21	M. Vilas-Boas et al., "New Insights into the Structure and Properties of Electroactive Polymer Films Derived from [Ni(salen)]", Inorganic Chemistry, Vol. 36, No. 22, pp. 4919-4929, 1997	
	22	C.P. Horwitz and R.W. Murray, "Oxidative Electropolymerization of Metal Schiff-Base Complexes", Mol.Cryst.Liq.Cryst., Vol. 160, pp. 389-404, 1988	



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23	J.L. Reddinger and J.R. Reynolds, "Tunable Redox and Optical Properties Using Transition Metal-Complexed Polythiophenes". <i>Macromolecules</i> , Vol. 30, No. 3 pp. 673-675, 1997
24	J.L. Reddinger and J.R. Reynolds, "Electroactive $\pi$ -Conjugated Polymers Based on Transition Metal-Containing Thiophenes Capable of Sensing Ionic and Neutral Species", <i>ACS Polym. Prepr.</i> pp. 321-322, 1997
25	J.L. Reddinger and J.R. Reynolds, "Electroactive, $\pi$ -Conjugated Polymers based on Transition Metal-Containing Thiophenes", <i>Synthetic Metals</i> 84, pp. 225-226, 1997
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27	F. Bedioui et al., "Electrooxidative polymerization of cobalt, nickel and manganese salen complexes in acetonitrile solution", <i>J. Electroanal. Chem.</i> 301, pp. 267-274, 1991
28	C.E. Dahm and D.G. Peters, "Catalytic Reduction of Iodoethane and 2-Iodopropane at Carbon Electrodes Coated with Anodically Polymerized Films of Nickel(II) Salen", <i>Analytical Chemistry</i> , Vol. 66, No. 19, pp. 3117-3123, 1994
29	K.A. Goldsby, "Symmetric and Unsymmetric Nickel(II) Schiff Base Complexes; Metal-Localized Versus Ligand-Localized Oxidation", <i>J. Coord. Chem.</i> , Vol. 19, pp. 83-90, 1988
30	H. Segawa et al., "Approaches to conducting polymer devices with nano-structure: Electrochemical construction of one-dimensional and two-dimensional porphyrin-oligothiophene co-polymers", <i>Synthetic Metals</i> 71, pp. 2151-2154, 1995
31	T. Shimidzu et al., "Approaches to conducting polymer devices with nanostructures: photoelectrochemical function of one-dimensional and two-dimensional porphyrin polymers with oligothiophenyl molecular wire", <i>Journal of Photochemistry and Photobiology A: Chemistry</i> 99, Article 4168, pp. 1-7, 1995
32	C. Armengaud et al., "Electrochemistry of conducting polypyrrole films containing cobalt porphyrin", <i>J. Electroanal. Chem.</i> , 277, pp. 197-211, 1990
33	P. Moisy et al., "Epoxidation of <i>cis</i> -cyclooctene by Molecular Oxygen Electrocatalysed by Polypyrrole-Manganese Porphyrin Film Modified Electrodes", <i>J. Electroanal. Chem.</i> 250, pp. 191-199, 1988
34	F. Bedioui et al., "Poly(Pyrrole-Manganese Tetraphenylporphyrin) film Electrodes in Acetonitrile Solution", <i>J. Electroanal. Chem.</i> 239, pp. 433-439, 1988
35	A. Bettelheim et al., "Electrochemical Polymerization of Amino-, Pyrrole-, and Hydroxy-Substituted Tetraphenylporphyrins", <i>Inorganic Chemistry</i> , Vol. 26, No. 7, pp. 1009-1017, 1987
36	P. Audebert et al., "Description of New Redox and Conducting Polymers Based on Copper Containing Units; Emphasis on the Role of Copper in the Electron Transfer Mechanism", <i>Synthetic Metals</i> 41-43, pp. 3049-3052, 1991
37	S.S. Zhu et al., "Conducting Polymetallorotaxanes: A Supramolecular Approach to Transition Metal Ion Sensors", <i>Journal of the American Chemical Society</i> , Vol. 118, No. 36, pp. 8713-8714, 1996
38	S.S. Zhu and T.M. Swager, "Design of Conducting Redox Polymers: A Polythiophene-Ru(bipy) <sub>3</sub> <sup>2+</sup> Hybrid Material**", <i>Advanced Materials</i> , Vol. 8, No. 6, pp. 497-500, 1996
39	G. Zotti et al., "Conductivity In Redox Modified Conducting Polymers. 2. Enhanced Redox Conductivity in Ferrocene-Substituted Polypyrroles and Polythiophenes", <i>Chem. Mater.</i> Vol. 7, No. 12, pp. 2309-2315, 1995
40	C.G. Cameron and P.G. Pickup, "A conjugated polymer/redox polymer hybrid with electronic communication between metal centres", <i>Chem. Commun.</i> , pp. 303-304, 1997
41	F. Bedioui et al., "Electrochemistry of conducting polypyrrole films containing cobalt porphyrin, Part 2." New Developments and inclusion of metallic aggregates in the coordination polymer, "J. Electroanal. Chem.", Vol. 297, pp. 257-269, 1991

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EXAMINER	DATE CONSIDERED
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#EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.